

13171

S/263/62/000/023/004/005
E194/E155

9.4172

AUTHORS: Vavrouch, Dusan, and Dvorák, Jiří

TITLE: A pneumatic infrared radiation receiver

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk, Izmeritel'naya
tekhnika, no.23, 1962, 63, abstract 32.23.397.
(Czech. patent cl. 421, 4/13, 42h, 20/01, no.99447,
April 15, 1961)

TEXT: The patented pneumatic receiver is based on the
schematic circuit of an American receiver. It consists of a
chamber, one wall of which is made of a material transparent to
infrared radiation. Inside the chamber an absorbing element
periodically receives infrared radiation through a shutter and is
thereby heated, which raises the pressure of the gas in the
chamber. The pressure change is picked up by an elastic
reflecting diaphragm. The surface of the diaphragm is fully sealed
and it is a component of an optical system consisting of a
meniscus lens, a plane grating with transparent and opaque bands
of equal width, a condenser, a lamp, and a photocell with mirror.
If the diaphragm is flat the upper half of the grating illuminated
Card 1/2

A pneumatic infrared radiation ...

S/263/62/000/023/004/005
E194/E155

by the lamp is reflected from the diaphragm and gives a reflection in the lower half of the grating. The transparent bands then coincide with the opaque, and little light reaches the photocell from the mirror and the current in the circuit is low. When the diaphragm is deformed by pressure, it becomes convex or concave and more or less radiation reaches the photocell, giving more or less current. The current is then amplified and recorded in the usual way. The chamber is connected with the internal space by a capillary so that rapid changes in the pressure do not alter the shape of the diaphragm. Obviously the backing surface to which the membrane is fixed should be very well finished and accurate so as not to introduce errors into the light distribution. Hitherto the backing has consisted of hardened carbon steel, which required prolonged heat-treatment, accurate grinding and polishing and was, moreover, rapidly corroded during the process of degreasing in an ultrasonic field. This defect affected the performance of the receiver. In the device patented the backing surface is made of easily worked minerals, whose surfaces do not corrode.

Card 2/2 [Abstractor's note: Complete translation.]

VAVROUCH, L.

VAVROUCH, L. Swiss project of the Rhone-Rhine waterway. p. 414.

Vol. 5, No. 11, Nov. 1955
VODNI HOSPODARSTVI
TECHNOLOGY

So: East European Accessions, Vol. 5, No. 5, May 1956

APPROVED FOR RELEASE: 08/31/2001 CIA-RDP86-00513R001859110007-9
KLAPETEK, J.; technical assistance: VAVROUCHOWA, B.

An improved paste for attaching EEG electrodes. Cesk. neurol. 26
no. 1:12-17 Ja '63.

1. Neurologická klinika lékařské fakulty PU v Olomouci, přednosta
prof. dr J. Hrbek, DrSc.
(ELECTROENCEPHALOGRAPHY) (EQUIPMENT AND SUPPLIES)

VAVROUSEK, J.

Ten years of milk and egg preservation through drying and condensation.
p. 246. Vol. 6, no. 5, 1955. PRUMYSL POTRAVIN. Praha.

Source: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956.

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859110007-9"

VAVROUSEK, J.

VAVROUSEK, J. Experience of the dairy industry with collecting, treating, and transporting milk. p. 426

Vol. 7, no. 9, 1956
PRUMYSL POTRAVIN
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 2, 1957

VAVROUSEK, J. MUDR

USEK, J. MUDE

the latest report on cardiovascular surgery for heart attack and
other coronary interventions. Intrathoracic nodes. Date: 10/10/77. 10-10-77.

1. III. odd. št. Vzdělávání detské tbc lečebny v Kosumeroch.
Vydavateľstvo št. št., Štátny ústav pedagogický odd. Inštitút pedagogiky
v Bratislave, prednosta M. H. Horáčik.

19. 21. 2011, steno: 1

caused by intrathoracic tuberc. of lymph nodes. (CCL)

(1947-1948), VI 12 1947, compl.

bronchial stenosis caused by intrathoracic tuberculosis, pur. (32)

VAVROUCH, Josef, inz.

"Machining hard-to-machine materials" by M. Mikovec and others. Reviewed by Josef Vavrouch. Stroj vyr 12 no.3: 231 '64.

VAVROUSEK, Josef, dr.

Some factors influencing the fulfillment of the plan in
poultry and egg processing plants. Prum potravin 14 no.
6:293-296 Je '63.

1. Prazske drubezarske zavody, n.p., Libus u Prahy.

VAVROUSEK, JOZEF

POLAND/Chemical Technology. Chemical Products and Their Application.
Food Industry.

H-28

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 16146.

Author : Vavrousek Jozef

Inst :

Title : Production of Egg Powder in Czechoslovakia

Orig Pub: Przegl. jajcz.-drob., 1956, 4, No 10, 15-16.

Abstract: No abstract.

Card : 1/1

VAVROUSEK, J.

New method of production and utilization of whey. (Tp be contd.) p. 278.
Vol. 6, no. 6. 1955. PRUMYSL POTRAVIN. Praha.

Source: East European Accessions List (EEAL), LC, Vol. 5, No. 3. March 1956.

VAVROUSEK, J.

New method of production and utilization of whey. (Conclusion) p. 320.

Vol. 6, no. 7, 1955.

PRUMYSL POTRAVIN. Praha.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

COUNTRY : Czechoslovakia
 CATEGORY :
 ABS. JOUR. : RZKhim., No. 1959, No. 73029
 AUTHOR : Vavrousek, J.
 INST. :
 TITLE : Some Problems of Technical Advances and Prime
 Cost Decrease in Drying and Condensing of
 Milk
 ORIG. PUB. : Prumysl potravin, 1958, 9, No 4, 178-181
 ABSTRACT : Within a few years it is anticipated to expand
 in Czechoslovakia the collecting and shipping of milk by
 tank trucks; increase the carrying capacity of the latter
 to 10 tons; increase the size of milk cans to 40-50 liters;
 lower the temperature of milk in shipment from 15° to 10-12°
 put in effect automatic regulation of the pH of solutions
 used in milk-can washing machines; to replace pasteurizing
 of milk, prior to condensing, by "uperizatsiya". It is
 proposed to widen the range of dairy products by making
 dry milk with cocoa, condensed milk with sugar, with cocoa,
 and coffee, condensed cream with cocoa, coffee, etc.
 G. Titov.
 CARD: 1/1

VAVROUSEK, J.

VAVROUSEK, J. Some principles concerning the wholesale purchase and distribution of milk and milk products. p. 523

Vol. 7, no. 11, 1956
PRUMYSL POTRAVIN
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 2, 1957

VAVROUSEK, J. ; SULC, J.

Report on the Polish dairy and poultry industries. p. 414.

PRUMYSL POTRAVIN. Praha.

Vol. 6, no. 8, 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March. 1956.

VAVROUSEK, J.; SULC, J. :

Experiences from the Polish dairy and poultry industries. p. 468.

PRUMYSL POTRAVIN. Praha. Vol. 6, no. 9, 1955.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956.

VAVROUSEK, Josef, dr. (Praha)

More important factors influencing the fulfillment of the plan of
the egg and poultry processing enterprise. Ekolm ipar 17 no.5:
145-149 My '63.

KYBAL, Jan; VAVROUSKOVA-ZADINOVA, Kamila; technicky spolupracovala
Marie Zahalkova.

Rye as a basic substrate in cultivation of *Claviceps purpurea*;
active component of inoculated substance in field cultivation
of ergot. Cesk. biol. 4 no.9:556-559 Oct 55.

1. Vyzkumny ustav lecivych rostlin, Praha.

(ERGOT ALKALOIDS,

Claviceps purpurea, field cultivation)

PARIZEK, J.; NEMECEK, S.; VAVROVA, I.

Concealed presence of glioma in a 4-year-old child. Cesk.
neuro1. 26 no.5:301-303 S '63.

1. Neurochirurgická klinika lékařské fakulty KU v Hradci Králové,
prednosta prof. dr. R. Petr Detská klinika lékařské fakulty
KU v Hradci Králové, prednosta prof. dr. J. Blecha.
(BRAIN NEOPLASMS) (GLIOBLASTOMA MULTIFORME)
(OPTIC NERVE) (CEREBELLAR NEOPLASMS)
(INTRACRANIAL PRESSURE) (BLINDNESS)

CHYERNY, Vav [Cernik, J.]; MISTR, Adol'f [Mistr, Adolf]; VAVROVA,
Jaroslava [Vavrova, J.]; VAVRA, Milosh [Vavra, Milos]

Photographic properties of mono-thylthiocarbonyl dyes. Zhur.
nauch. i prikl. fot. i kin. 10 no.1:31-33 Ja-F '65. (MIRA 18:4)

1. Institut čistých reaktivov, Brno, Czechoslovakia.

Vavrova, L.

ZAHALKOVA, A.; VAVROVA, L.

Role of tuberculosis in child mortality and morbidity. *Pediat. listy*.
Praha 7 no. 3:153-157 May-June 1952. (CLML 22:4)

1. Of the Institute of Social Medicine (Head--Prof. V. Prosek, M. D.)
of Charles University, Prague.

5.5400
5.3610Z/OC9/60/010/05/004/040
E112/E153AUTHORS: Vladimír Medonos and Marcela VávrováTITLE: Polarographic Determination of Thiourea

PERIODICAL: Chemický Průmysl, Vol 10, 1960, Nr 5, pp 234-237

ABSTRACT: Thiourea is produced by passing carbon dioxide into a suspension of calcium cyanamide in a solution of ammonium sulphide. The authors present a quick polarographic method for its estimation in the rather complex reaction mixture. The conventional method of titration with silver nitrate is too cumbersome and the polarographic method offers advantages. The position of halfwave potentials, changes with the concentration of thiourea. A wave with best characteristics is obtained in a medium of 0.2 N-NaOH, the halfwave potential of which is about 0.3 V. An alkaline medium is, however, not suitable for the direct estimation of thiourea because colloidal sulphur is precipitated from the present hydrogen sulphide. Furthermore, maxima are formed which cannot be avoided, even by the addition of gelatine. The authors have developed a polarographic method using as reaction medium a 1N sulphuric acid plus 3 gms of cadmium acetate per one litre, the latter compound effecting a complete

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E112/E153

Polarographic Determination of Thiourea

elimination of sulphide ions. Cyanamides, dicyandiamide, or urea, have no deleterious effect on the estimation of thiourea. The authors give experimental details of the method. A current of a voltage between 0.2 and 0.5 V corresponding to the horizontal part of the polarographic wave of thiourea of concentration 2×10^{-3} to 6×10^{-3} N. is passed between the dropping mercury and calomel electrode. The amplitude of the ammeter is directly proportional to the concentration of thiourea and can be read from the calibration diagram. Results of analyses were evaluated by variant analyses of factorial experiments. Results are tabulated, giving mean squares, degree of freedom, variants and statistical significance. The most important factor affecting results was the concentration of thiourea in the analyzed sample. There are 4 figures, 2 tables and 13 references, of which 8 are Czech, 2 German, 1 Italian, 1 Soviet and 1 English.

Card
2/2

ASSOCIATION: Vysoká škola chemicko-technologická, Praha
(University of Chemical Technology, Prague)
SUBMITTED: February 15, 1960

SKALICKY, J.; NOVOTNA, H. Techn. spoluprace: CIZKOVA, A.; VAVROVA, V.

Water disinfection with peroxides. Cesk. hyg. 10 no.2:100-106 Mr '65.

1. Vojensky ustav hygieny epidemiologie a mikrobiologie, Praha.

HOUSTEK, J.; TOMASOVA, H.; MASOPUST, J.; VAVROVA, V.

Mucoproteins in the digestive tract in pancreatic cystic fibrosis. Cesk. pediat. 19 no.7:585-593 J1'64

1. Ustav vyzkumu vyvoje ditete a katedra fakultni pediatrie fakulty detskeho lekarstvi KU [Karlovy univesity] v Praze (vedouci : prof. dr. J.Houstek, DrSo.); Ustredni biochemicka laborator detske fakultni nemocnice v Praze (vedouci: MUDr. J.Masopust, CSc.)

SAMANEK, M.; VAVROVA, V.; ZAJIC, F.; VOKAC, Z.

Diagnosis of disorders of acid-base equilibrium by analysis of expired air. *Cesk. pediat.* 19 no.8:707-712 Ag '64.

1. Katedra fakultní pediatrie a Ustav vyzkumu vyvyje ditete fakulty detsekho lekarstvi v Praze (vedouci prof. dr. J. Houstek) a Ustav pro choroby obehu krevniho v Praze (reditel prof. dr. J. Brod).

VOKAC, Z.; ZAPLETAL, A.; VAVROVA, V.

Lung nitrogen clearance following acetylcholine aerosol administration in asthmatic children. Cesk. pediat. 20 no.3:207-212 Mr '65

1. Research Institute of Child Development and Second Children's Clinic, Prague.

HOUSTEK, J.; VAVROVA, V.; VOKAC, Z.

Respiratory disturbances in mucoviscidosis. Cesk. pediat. 20
no.3:415-420 Mr '65

1. Second Children's Clinic and Research Institute of Child
Development, Faculty of Pediatrics, Prague.

HOUSTEK, J. prof. dr (Praha 2, Sokolska 2), VAVROVA, V.

Our experiences with mucoviscidosis. Cas. lek. cesk. 104 no.6:
201-208 26 F '65.

1. II. detska klinika fakulty detskeho lekarstvi Karlovy University
v Praze (prednosta: prof. dr. J. Houstek, DrSc) a Ustav vyzkumu
vyvoje ditete fakulty detskeho lekarstvi Karlovy University v
Praze, (reditel: prof. dr. J. Houstek, DrSc.).

HOUSTEK, J.; VAVROVA, V.

Frequency and forms of mucoviscidosis in Czechoslovakia. Cesk.
pediat. 20 no.3:412-414 Mr '65

1. Second Children's Clinic and Research Institute of Child
Development, Faculty of Pediatrics, Praha.

KVASNICKA, Jiri; KVASNICKOVA, Eva; GROH, Jindrich; DANICKOVA, Zdena;
BARTOS, Vladimir; EREEN, Josef. Techn. spoluprace VAVROVA, Eva.

Mineral and water changes during the aging process. I. Methods
of determination of minerals in erythrocytes. Normal values.
Differences between the normal values in women and men. Sborn.
ved. prac. lek. fak. Karlov. Univ. 9 no.1:369-374 '64.

Mineral and water changes during the aging process. II. Mineral
and water changes in erythrocytes in different age groups.
Ibid.:375-381

1. I. interni klinika (prednosta: prof. MUDr. F. Cernik)
Karlovy University v Hradci Kralove.

HOUSTEK, J.; PAUM, S.; HLOUSKOVA, Z.; NIKODYMOVA, L.; STIKSA, J.; VAVROVA, V.;
VOKAC, Z.

Functional changes in diffuse pulmonary fibrosis. Cesk. pediat.
20 no.3:366-371 Mr '65

1. Second Children's Clinic; Research Institute of Child Development,
and Research Institute of Experimental Therapy, Prague.

DAUM, S.; NIKODYMOVA, L.; STIKSA, J.; VOKAC, Z.; VAVROVA, V.; HLOUSKOVA, Z.
Technical assistance: MACHANOVA, A.; FLACHA, B.; URBANOVA, A.

Diffusing capacity of the lungs and its components in interstitial
pulmonary fibroses during adolescence. Rev. Czech. med. 11 no.3:
180-189 '65.

1. Institute of Postgraduate Medical Training. Chair of Internal
Medicine, Prague (Director: Prof. O. Smahel, M.D., D.Sc.), Research
Institute of Experimental Therapy (Director: Prof. O. Smahel, M.D.,
D.Sc.), and Research Institute of Child Development, Prague (Director:
Prof. J. Houstek, M.D., D.Sc.).

VAVROVA, V.

The imprint test in screening for mucoviscidosis. Cesk. pediat.
20 no.1:16-22 Ja '65

1. Ustav vyzkumu vyvoje ditete fakulty detskeho lekarstvi
Karlovy University v Praze (reditel: prof. dr. J. Houstek,
DrSc.).

SIMANKOVA, N.; VAVROVA, V.

Genealogical study of families with mucoviscidosis. Cesk.
pediat. 18 no.10:942-946 0 '63.

1. I detska klinika fakulty detskeho lekarstvi KU v Praze,
prednosta prof. dr. J. Svejcar II detska klinika fakulty
detskeho lekarstvi KU v Praze a Ustav vyzkumu vyvoje ditete
v Praze, reditel prof. dr. J. Houstek.

(PANCREATIC CYSTIC FIBROSIS)
(RESPIRATORY TRACT INFECTIONS)
(PEPTIC ULCER) (ALLERGY)
(PREGNANCY IN DIABETES)
(PREGNANCY COMPL.)
(CONSANGUINITY) (DELIVERY)
(GENETICS, HUMAN)

DAUM, S.; NIKODYMOVA, L.; STIKSA, J.; VOKAC, Z.; VAVROVA, V.; HLOUSKOVA, Z.;
Technicka spoluprace: MACHANOVA, A.; PLACHA, B.; URBANOVA, A.

Diffusion capacity of the lungs and its components in interstitial
pulmonary fibrosis in adolescents. Cas. lek. Cesk. 104 no.49/50:
1366-1371 10 D '65.

1. Vyzkumny ustav experimentalni terapie v Praze (reditel prof.
dr. O. Smahel, DrSc.) a Ustav vyzkumu vyvoje ditete v Praze
(reditel prof. dr. J. Houstek, DrSc.).

HOUSTEK, Josef; VAVROVA, Vera

The incidence of cystic fibrosis of the pancreas in Czechoslovakia.
Cesk. pediat. 17 no.5/6:445-451 Je '62.

1. Katedra fakultní pediatrie a Ústav výzkumu vývoje dítěte fakulty
dětského lékařství University Karlovy v Praze, vedoucí prof. MUDr.
J. Houstek.

(PANCREATIC CYSTIC FIBROSIS statist)

TOMASOVA, Helena; VAVROVA, Vera; VOKAC, Zdenek

A method for the determination of chlorides in the diagnosis of mucoviscidosis. Cesk. pediat. 17 no.4:324-331 Ap '62.

1. II detska klinika fakulty detskeho lekarstvi Karlovy university v Praze, prednosta prof. MUDr. J. Heustek.

(PANCREATIC CYSTIC FIBROSIS diag)
(CHLORIDES chem) (SWEAT chem)

89491

Z/034/61/000/002/006/006
E073/E535

18.3100

AUTHORS: Jedlička, J., Sedláček, V. Doctor Engineer, Rejř, J.
and Vavrovič, J., Engineer

TITLE: Application of Non-soluble Anodes in the Electrolysis
of Nonferrous Metals.
Patent Application Class 40c, 3, PV 3389-60, dated
May 25, 1960

PERIODICAL: Hutnické listy, 1961, No.2, p.139

TEXT: The anodes are produced from titanium or titanium
alloys with a conducting surface layer made of platinum or metals
of the platinum group or of metals of the platinum group plus
gold or silver. The ratio of the individual metals in the alloys
is determined by the intended use of these anodes and also the
medium chosen for the particular electrochemical process. By
using such anodes, cathode metals of spectral purity were obtained.
Compared to current types of anodes, the service life of these is
considerably longer. ✓

Card 1/1

VAVROVSKY, F.

" Analysis of the Plan Fulfillment in the Building Industry," p. 31.
(Stavebni Průmysl, Vol.3, No.2, Jan. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol.2, No.9, Library of Congress, September
1953, Uncl.

VAVROVSKY, F.

"Analysis of the Plan of Fulfillment in the Building Industry. (To be contd.),"

P. 5.

(Stavebni Pruvy, Vol.3, No.1, Jan. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol.2, No.9, Library of Congress, September
1953, Uncl.

VAVRU, V.

Elimination of image instability. Sdel tech ll no. 12:
471-472 D '63.

JANIK, A.; VAVRUCH, A.

Psychopathic syndromes in traveling. Cesk. psychiat. 61 no.5:
339-344 0 '65.

1. Psychiatricka katedra Ustavu detskeho lekarstvi v Praze a
Psychiatricka lecebna v Praze 8.

L 43006-66

ACC NR: AP6031818

SOURCE CODE: CZ/0083/65/000/005/0339/0344

AUTHOR: Janik, A.—Yanik, A.; Vavruch, A.—Vavrukh, A.

ORG: [Vavruch] Department of Psychiatry, UDL, Prague (Psychiatricka katedra UDL);
[Janik] Mental Hospital, Prague (Psychiatricka lecebna)

TITLE: Psychopathologic syndromes²² related to travel [This paper was presented at
a regional seminary held in Prague on 17 June 1964.]

SOURCE: Ceskoslovenska psychiatrie, no. 5, 1965, 339-344

TOPIC TAGS: psychiatry, psychoneurotic disorder

ABSTRACT: Review of the cases of 42 psychiatric patients who were hospitalized during or shortly after trips. Only in 8 men and 1 woman was there a presumed likelihood of more than coincidental relationship between stresses related directly to travel and the occurrence of acute outbreak and exacerbation of psychiatric disease -- mostly paranoid schizophrenia. [Based on authors' Eng. abst.]
[JPRS: 33,500]

SUB CODE: 06 / SUBM DATE: none / SOV REF: 007 / OTH REF: 002

Card 1/1 MLP

0919 0366

VAVRUCH, I.

24(2,4) PHASE I BOOK EXPLOITATION CZECH/2433

International Polarographic Congress. 1st, Prague, 1951
Sborník I. Mezinárodního polarografického sjezdu. Díl 3: Hlavní referáty přednesené na sjezdu. Proceedings... Vol. 3: Reviews Read at the Congress. Praha, Přírodovědecké vyd.-v. 7/4 p. 2,000 copies printed.

Resp. Ed.: Jiří Koryta, Doctor; Chief Ed.: Publishing House; Milan Skalník, Doctor; Tech. Ed.: Oldřich Duncák.

PURPOSE: The book is intended for chemists, chemical engineers, and physicists.

COVERAGE: The book is a collection of reviews and original papers read at the International Polarographic Congress held in Prague in 1951. Uses of polarography in organic and inorganic analysis, biochemistry, medicine, and industrial chemistry are discussed. In their section, Reviews Read at the Congress, Review are presented in the section, Original Papers Read at the Congress, only those translations in Russian, German, and English which have not been published in Volume I are presented. The following scientists participated in the opening of the Congress: Professor Václav Křemula, Dean of the Faculty of Sciences, Prague; Doctor Jaromír Dolanský, Minister of Education; Professor Jaroslav Hroch, Chairman of the Congress; and Professor Jaroslav Fuks, Chairman of the Center for Scientific Research and Technical Development. References follow each paper.

Arndt, J. Apparatus for Oscillographic Polarography	241
[Russian Translation]	250
[German Translation]	259
Herrovský, J. Oscillographic Polarography	268
[Russian Translation]	273
[English Translation]	279
Brůžek, R. Kinetics of Electrode Processes in Polarography	286

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Arndt, H. J. Polarographic Study of Basic Trivalent Chromium Salt Systems	395
Křivanek, M. Complexes of Iron with Saccharose	399
Dratavský, M. and M. Ebert. Effect of Gelatin and Thymol on Cathodic Deposition of Cations at a Dropping Mercury Electrode	404
[Russian Translation]	407
[German Translation]	410
Kuta, J. Study of Hydrogen Overvoltage With a Mercury Electrode With Controlled Dropping Time	413
Dvořák, J. Effect of Capillary Constants on the Maximum of Oxygen	418
[Russian Translation]	421
[German Translation]	423
Vavruch, I. Attempt to Classify Refined Sugars by the Polarographic Method	427
[Russian Translation]	286
[German Translation]	332
ORIGINAL PAPERS READ AT THE CONGRESS	
Kalousek, M. and A. Jockstein. Validity of the Nernst Equation in the Deduction of the Polarographic Wave Equation	359
Vlček, A. A. Polarography in Concentrated Sulfuric Acid	366
[Russian Translation]	370
[English Translation]	373
Valenta, P. Study of Current Discontinuity Appearing on a Calomel Beam Electrode	377
Mašek, J. Discontinuity on Polarographic Curves Observed	

VAYL', S.S., prof.

"Carcinoma and adenoma of the lungs" [in German] by J.Balo.
Reviewed by S.S.Vail'. Vop.onk. 5 no.2:244-245 '59.
(LUNGS--TUMORS) (BALO, J.) (MIRA 12:6)

VAYL', V.S., prof.

N.P.Gundobin (1860-1908), one of the founders of Russian
pediatrics. *Pediatrics* 37 no.4:72-75 Ap '59. (MIRA 12:6)

(PEDIATRICS

contribution of Nikolai P. Gundobin (Rus))

(BIOGRAPHIES

Gundobin, Nikolai P. (Rus))

VAVRUCH, IVAN

5

Kinetics of solvent flow in paper chromatography.
Americh Erdős and Ivan Vavruch (Vysoká škola chem.
technol., Prague). *Chem. Listy* 50, 29-31 (1956). — With
a simple model of an "effective" capillary, the rate equa-
tions for ascending, descending, and horizontal arrange-
ments are derived that reproduce the exptl. data well.
The consts. with phys. meaning (effective radius and ad-
vancing contact angle) are consistent for both ascending
and descending arrangements.
E. Erdős

①

AD sent

VAVRUCH, I.

PHASE I BOOK EXPLOITATION

CZECH/5380

Pouchlý, Julius, Engineer, Candidate of Chemical Sciences, and Ivan Vavruch, Docent, Doctor of Natural Sciences.

Fysikální chemie koloidních soustav (Physical Chemistry of Colloidal Systems) Praha, SNTL, 1960. 334 p. 2,200 copies printed.

Reviewers: Jiří Mýl, Docent, Engineer, Doctor, and Alexander Tkáč, Docent, Engineer, Doctor; Resp. Ed.: Marie Skolová; Chief Ed.: Adolf Balada; Tech. Ed.: Ludvík Charvát.

PURPOSE: This textbook is intended for students specializing in chemical technology at higher institutions of learning; for scientific and technical workers in all branches of the chemical industry and in chemical research; for workers in biology, agriculture, forestry, pharmacy, and medicine; for teachers in special schools; and for those working in the natural sciences.

COVERAGE: The book, the first in the Czech language on colloidal chemistry, was authorized as a textbook for higher institutions of

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Physical Chemistry (Cont.)

CZECH/5380

learning specializing in chemical technology by decree of the Ministerstvo Školství a kultury (Ministry of Education and Culture) dated April 4, 1959. The book deals with the basic concepts of colloidal chemistry; the classification of colloidal systems; the kinetic, optical, and mechanical properties of colloids; surface and interphase energies; surface films of insoluble substances; adsorption on a mobile boundary; adsorption on a solid surface; the electrical properties of phase boundaries; ion exchange; lyosols and suspensions; emulsions and foams; aerosols; micelle colloids; high-molecular substances and their solutions; and gels. The authors have attempted to present the material in the light of the most recent views and research in colloidal chemistry, and to demonstrate the laws and regularities of colloidal chemistry as following from several fundamental principles known from the theory of the thermal motion of matter and intermolecular forces, and from the physical chemistry of phase boundaries and the thermodynamics of multicomponent systems. The presentation presupposes a knowledge of general physical chemistry on the part of the reader. The material corresponding to course work at higher schools of chemical technology appears in large

Card ~~2/28~~

Physical Chemistry (Cont.)

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print, while the material intended for deeper study is in smaller type. The microphotos in the book were made with a TTC instrument supplied by the Ministerstvo chemického průmyslu (Ministry of the Chemical Industry) for which the authors thank Professor Stanislav Veselý; the Debyeogram of corundum was supplied by Engineer Jaroslav Bauer of the VSCHT (Higher School of Chemical Technology) in Prague. References accompany each chapter. A separate bibliography containing 30 references (15 English, 5 German, 5 Soviet, and 5 Czech) appears at the end of the book.

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Card 3/28

Vavrukh, Ivan

I. Theory of paper chromatography of inorganic compounds.
 II. Semiquantitative microdetermination of sodium and potassium. Ivan Vavrukh, Miloš Hejtmánek, and Jitka Hložková (Vysoká škola chem. technol., Prague). Chem. Listy 49, 1782-5 (1955); cf. C.A. 49, 7923d. — A semiquant. microdetn. of Na and K was carried out by ascending chromatography on Whatman No. 1 paper with 0.1 ml. soln. of NaCl and KCl, MeOH as the solvent, and 0.5N AgNO₃ as the detecting agent (Cl⁻ moved at the same speed as the solt). The chromatography took 4.5 hrs., the whole analysis 5.5 hrs. The analysis was satisfactory for detg. 15 γ K in the presence of 810 γ Na, and 6 γ Na in the presence of 700 γ K with the av. error of $\pm 15 \gamma$ K and $\pm 20 \gamma$ Na.
 M. Hudlická

(2)

VAVRUCH, I.

Czechoslovakia

CA:47:11780

"Colloidal precipitates obtained from molasses by alcohol."

Listy Cukrovar. 66, 141-3(1949-50); Sugar Ind. Abstr. 12, 91(1950)

VAVRUCH, I.

Czechoslovakia

CA:47:11772

with E. RUBES

"Control of defecation and second saturation by the continuous measurement of pH and electrical conductivity."

Listy Cukrovar. 66, 131-3 (1949-50); Sugar Ind. Abstr. 12, 87(1950)

VAVRUCH, I.

Czech

CA: 47:10904

"Physical chemistry of the surface of aqueous solutions of sacrose. 11."

Listy Cukrovar. 66, 73 (1949-50; Sugar Ind. Abstr. 12, 17-18 (1950)

**A Study of Adhesion of Microscopic Particles of Iron
on Glass and Films by the Adhesion Angle Method.**
(In English.) I. Vayrych. Collection of Czechoslovak
Chemical Communications, v. 13, Oct. 1948, p. 483-
504.
Results of investigation of the above are tabu-
lated, graphed, and discussed. 13 ref.

BC

1329. Partition chromatography and colour reactions of organic papers. L. Yasurach (*Litoy Cok.*, 1940-50, 66, 200-201; *Sng. Ind. Abstr.*, 1950, 12, 244).—Fourteen colour reactions are tested; the best spraying reagents are: aniline phthalate, benzidine, reorcinol, 1-naphthol and H_3PO_4 (Molisch), and aq. NH_3 - $AgNO_3$ (Tollens).
P. S. ARUP.

ASAC-514 METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CIPHERS																										100 AND 4TH CIPHERS																									
PROCESS AND PROPERTIES INDEX																																																			
<p>BC C3 3</p> <p>818. Adsorption and chromatographic separation of sugars on bone char. L. Vavroch (Zitry Gub., 1946-50, 68, 240-251; Sug. Ind. Abstr., 1950, 12, 228).—The adsorption of glucose, fructose, galactose, sucrose, maltose, and lactose by a Czech bone char (0.4% of C on dry matter, 8.7% of water, ground and sieved to contain no dust or particles >0.5 mm. in diameter) was tested. The bone char (8 kg.) was mixed with 8 l. of water, washed for 40 hr., and dried at 150°. In each test, 120 g. of char were packed in a glass column (3.15 cm. in diameter), to 8-8 g. per ml., with gauze etc. at the bottom. The sugar solution (100 ml.) was percolated through the dry char (density 0.8-0.9), the initial pH val. being 6, and the pH val. of the filtrate 5.2. Adsorption was measured by estimating the filtrate volumetrically. Monosaccharides were more easily adsorbed than disaccharides; with increasing concn. of sucrose, the amount adsorbed increased up to 80%, but was lower with concns. of 60% and over. The amount of sucrose adsorbed per g. of char decreased with a decreasing length of column, due probably to faster flow in the shorter column. Monosaccharides were more readily desorbed by water or by eq. ethanol (7%) than were disaccharides. Ethanol gave more rapid desorption, but the differences found between the sugars with the bone char were insufficient for chromatography; active C is better in this respect. Similar results were obtained in tests with invert sugar, mixtures of glucose and sucrose, thick juice, raw sugar, molasses, and honey. The sucrose remaining in the bone char hastened the desorption of glucose from mixtures. P. S. ARUP.</p>																																																			
<p>ASB-LLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

BC. 2
3

1221. Determination of molasses raffinose in molasses by paper partition chromatography. I. Vavrosh (*Ukr. Zh. Khim.*, 1951, 27, 211-212; *Sov. Ind. Abstr.*, 1951, 12, 166-169; cf. C., 1951, 468).—The raffinose contents of 16 samples of molasses and one of citric acid fermentation slop were determined in aq. 30% undiluted, recently filtered (paper) dilutions by the method of de Whalley *et al.* (cf. C., 1951, 122). Defecated solutions were more difficult to analyze owing to the presence of salts. Standard molasses to which known amounts of raffinose were added were prepared from 140 g. of sucrose, and 57 g. of K lactate (87.5%) in 30 g. of water, heated for 8 hr. (water bath) with stirring, and made up with water to give a syrup of 77° Brix. Molasses solutions of 72-82° Brix were used for the actual analysis. In the method of analysis the paper was spotted with the sample from a marked capillary tube, and dried at 90° for 45 min. After development (4-30 hr.) the paper was dried at 90° for 1 hr., immediately sprayed with naphthal, and dried for 15-20 min. at 90°. Separation was satisfactory, and collaborative analyses of one sample by five persons showed for 20 analyses an accuracy of $\pm 0.2\%$; various molasses contained 0.55-1.48% (average 0.94%) of raffinose; the slop contained 0.08%.
P. S. Anup.

CA

2

Bibliography of Czechoslovak chemical publications,
1948. I. Vavruch. Collection Czechoslov. Chem. Com-
muns. 16, 427-40 (1949). G.G.

COMMON ELEMENTS		1ST AND 2ND CHOICES		PROCESSED AND PROPERTIES INDEX		3RD AND 4TH CHOICES																	
<p style="text-align: right;">4</p> <p>The dependence of the polarographic diffusion current on the viscosity in concentrated solutions of sucrose. I. Vavřuch (Research Inst. Czech. Sugar Ind., Prague). <i>Collection Czech. Chem. Commun.</i> 12, 129-135 (1947). -- A formula can be derived from the Ilkovic equation and the Nernst formula for the diffusion const. This formula $i_d \sqrt{\eta} = k$ gives the polarographic diffusion current i_d as a function of the viscosity η of the soln. Brasher (C.A. 41, 3345a) found perfect agreement with the formula when using polarographically indifferent electrolytes to increase the viscosity of his solns. However, V. found that with increasing concn. of sucrose the observed values for i_d become increasingly greater than values calcd. from the formula. The discordance is practically the same whether the diffusion currents are due to Tl^+, Pb^{2+}, Zn^{2+}, or Cu^{2+}. There is no satisfactory explanation of the anomaly.</p> <p style="text-align: right;">Gerald Reed</p>																							
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																							
<table border="1"> <thead> <tr> <th colspan="2">SUBJECT</th> <th colspan="2">SUBJECT</th> <th colspan="2">SUBJECT</th> <th colspan="2">SUBJECT</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td> </tr> </tbody> </table>								SUBJECT		SUBJECT		SUBJECT		SUBJECT		1	2	3	4	5	6	7	8
SUBJECT		SUBJECT		SUBJECT		SUBJECT																	
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B. ab.

3014. Estimation of refined sugar by the polarographic method.
 1. Vavreck (Coll. Trav. chim. Tchécosl., 1950, 18, 217-230). The
 standard conditions which must be fulfilled for the analysis of
 refined sugars are: electrolyte 0.002N K_2SO_4 , concn. of sucrose
 28.0 ± 0.05 g. per 100 ml. or 8.5 ± 0.01 g. per 100 ml. (the latter, if the
 height of the O max. is < 2.5 mm), diameter of capillary $0.08 \pm$
 0.01 mm., drop time 3.50 ± 0.05 sec., temp. $30.0 \pm 0.3^\circ$, atm. pressure
 760 ± 10 mm. Hg, velocity of rotation of the potentiometer wheel
 6 mv. sec.⁻¹. Analyzing with free access of air gives a very pro-
 nounced O max. of a polarized form. Measurements are made from
 0 to -1 v. and the height from the peak (the highest point of the
 curve) to the upper points of the oscillations of the diffusion current
 are expressed in microamp. By combination of the use of the
 absorbing power of activated charcoal and crystallisation from
 ethanol a "polarographic standard sugar" practically free from
 surface-active substances is obtained. This, when treated with
 known amounts of standard beet-sugar molasses or of pure methyl-
 orange gives known standards against which the samples are tested.
 Results are expressed in $mg. \% \times 100$ of methyl-orange beet
 converted graphically into $mg. \%$ of molasses. H. WASH.

CA

28

Estimation of refined sugar by the polarographic method.
1. Vavrych (Czech. Sugar Ind., Prague). *Collection*
Czechoslov. Chem. Commun. 15, 217-31 (1950) (in English).
...The amt. of surface-active substance (I) is estd. by the
decrease in the O max. in 0.002 N K_2SO_4 . Methyl orange
is used as a reference. A standard sugar was prepd. by
treating 200 g. sugar plus 200 g. H_2O with charcoal and
adding 3 l. of EtOH also treated with charcoal and filtering
through sintered glass. Exptl. details are critical for re-
producibility.
K. G. Stone

CA

Adsorption and chromatographic separation of sugars on bone char. I. Vavrukh. *Litsy Chislov*, 66, 249-51 (1949-50).—The adsorption of glucose, fructose, galactose, sucrose, maltose, and lactose by a Czechoslovakian bone char (9.4% of C on dry matter, 8.7% of H₂O, ground and sieved to contain no dust or particles > 0.5 mm. in diam.) was tested. The bone char (5 kg.) was mixed with 5 l. of H₂O, washed for 48 hrs., and dried at 150°. In each test, 120 g. of char was packed in a glass column (3.15 cm. in diam.), to 8.5 g. per ml., with gauze, etc. at the bottom. The sugar soln. (100 ml.) was percolated through the dry char (mostly at 20-25°), the initial pH value being 6, and the pH value of the filtrates 8.2. Adsorption was measured by examg. the filtrates polarimetrically. Monosaccharides were more easily adsorbed than disaccharides; with increasing concn. of sucrose, the amt. adsorbed increased up to 80%, but was lower with concns. of 60% and over. The amt. of sucrose adsorbed per g. of char decreased with decreasing length of column, probably owing to faster flow in the shorter column. Monosaccharides were more readily desorbed by H₂O or by aq. ethanol (7%) than were disaccharides. Ethanol gave more rapid desorption, but the differences found between the sugars with the bone char were insufficient for chromatography; active C is better in this respect. Similar results were obtained in tests with invert sugar, mixts. of glucose and sucrose, thick juice, raw sugar, molasses, and honey. The sucrose remaining in the bone char hastened the desorption of glucose from mixts. B. A.

1ST AND 2ND ORDERS PHYSICAL AND PROPERTIES INDEX

2

CA

A study of adhesion of microscopic particles of iron on glass and films by the adhesion-angle method. 1. VAVRUCH. *Collection Czechoslov. Chem. Commun.* 13, 403-404 (1948) (in English); cf. C.A. 34, 920A. The adhesion on glass of Fe particles, 13.7 μ in diam., was measured at $25^\circ \pm 2^\circ$ by the adhesion-angle method. The expts., following the change of adhesion of the given specimens of Fe with time, proved that the values were not affected by the oxidation. The value of θ_a , the sp. adhesion in dynes per sq. cm., was always higher in H_2O than in org. liquids. The θ_a values depended on the chem. constitution of the medium, on its mol. wt., or on the length of the chain of the members of a homologous series and on the nature and no. of substituent groups. Ions acted, with small exceptions, in agreement with the Hofmeister lyotropic series. Increasing charge of the cation decreased the sp. adhesion of Fe. The effect of the charge of the anion was much less pronounced and chiefly specific. In concd. aq. NH_4 , the adhesion was greater than in pure $AcOH$. In solns. of NH_4 of different concns. 3 groups of θ_a values were found, which repeated with change of concn. The dependence of θ_a on the concn. of different univalent alcs. in a homologous series in H_2O was analogous. The solns., showing the same dielec. mot. polarization, affected the adhesion in a similar way. With increasing concn. sucrose decreased θ_a . Colloids like starch, soaps, and gelatin, strongly influenced θ_a in very small concn. (less than 0.001%), gelatin increasing the adhesion, starch and Na stearate decreasing it. Crystal violet increased θ_a . Insol. films on glass increased adhesion according to the lyophobic character of the film shown toward the liquid medium.

R. E. Dunbar

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

REGION 1	REGION 2	REGION 3	REGION 4	REGION 5	REGION 6	REGION 7	REGION 8	REGION 9	REGION 10	REGION 11	REGION 12	REGION 13	REGION 14	REGION 15	REGION 16	REGION 17	REGION 18	REGION 19	REGION 20	REGION 21	REGION 22	REGION 23	REGION 24	REGION 25	REGION 26	REGION 27	REGION 28	REGION 29	REGION 30	REGION 31	REGION 32	REGION 33	REGION 34	REGION 35	REGION 36	REGION 37	REGION 38	REGION 39	REGION 40	REGION 41	REGION 42	REGION 43	REGION 44	REGION 45	REGION 46	REGION 47	REGION 48	REGION 49	REGION 50	REGION 51	REGION 52	REGION 53	REGION 54	REGION 55	REGION 56	REGION 57	REGION 58	REGION 59	REGION 60	REGION 61	REGION 62	REGION 63	REGION 64	REGION 65	REGION 66	REGION 67	REGION 68	REGION 69	REGION 70	REGION 71	REGION 72	REGION 73	REGION 74	REGION 75	REGION 76	REGION 77	REGION 78	REGION 79	REGION 80	REGION 81	REGION 82	REGION 83	REGION 84	REGION 85	REGION 86	REGION 87	REGION 88	REGION 89	REGION 90	REGION 91	REGION 92	REGION 93	REGION 94	REGION 95	REGION 96	REGION 97	REGION 98	REGION 99	REGION 100
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PROCESS AND PROPERTIES INDEX																									
CANDY													SUGAR												
<p>The determination of invert sugar in candy with the polarograph. I. Vavrukh and E. Kulch. <i>Listy Cukrov.</i> 64, 183-9(1948).—Because candy contains anywhere from 200 to 400 times the content of fructose found in refined products, the authors abandoned the (Muer method (C.A. 19, 3443; 20, 1360) which was designed for small quantities of invert sugar and which does not give dependable values for such large quantities. The disaccharides (sucrose, maltose, lactose) did not form a polarographic wave. The dropping-Hg electrode did not reduce al- waves (glucose, galactose, mannose, rhamnose, xylose, arabinose) in dil. neutral solns. at room temp.; it reduced the ketones (fructose and sorbose). Place 20 ± 0.03 g. of ground candy selected from a large specimen to avoid an uneven distribution of the invert sugar into a 100-cc. vol. flask, add 10 cc. of 1.0 N CaCl₂, dissolve, and make to 100 cc. with water. Conduct the analysis from a potential of 1.6 v. at room temp. and in the presence of air. The removal of air is not necessary. The polarogram shows only the fructose wave. Values obtained by the Ofner method were too low and had to be corrected according to the equation: actual invert sugar % = (1.2 times the value (%) detd. according to Ofner - 0.08). Control expts. are discussed. Frank Mareah</p>																									
<p>ASM-AIA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

22

3

1982. Classification of refined sugars by polarographic method.
I. Vavroch (*Proc. 1st int. polarographic Congr., Prague, 1961*, 1, 843-844; *Sug. Ind. Abstr.*, 1961, 18, 186).—The author's method for the polarographic estimation of surface-active substances in refined sugars (*cf. C.*, 1960, 457) and the combination of this method with conductimetric analysis (*cf. Sug. Ind. Abstr.*, 1961, 18, 180) are briefly described. I. S. ANUP.

BA C
3

890. Determination of amino-acids in molasses and (fermentation) alcohols by paper partition chromatography. I. Vavrich (*Lisly Chkr.*, 1951, 67, 151-153; *Sov. Ind. Abstr.*, 1951, 18, 152-153). Beet molasses (purified by electrodialysis), cane molasses, alcohol- and citric acid-fermentation alcohols, and the acid substrate for the latter fermentation were analysed by one- or two-dimensional paper chromatography, using as solvents water-n-butanol-acetic acid (8:4:1) and conc. aq. phenol. A very sensitive method for cane molasses was to develop 20 spots close together by the first solvent (with a spaced-off spot for reference), cut out the separated (unsprayed) compounds on strips, extract with hot water, purify, and re-chromatograph each with phenol. Beet molasses yielded glutamic, γ -aminobutyric, and aspartic acids, and small amounts of other amino-acids, with glycine, glutamine, valine, serine, alanine, leucine, and tyrosine. The amino-acid content of cane molasses was much lower.
V. S. ARUP.

1ST AND 2ND ORDERS										PROCESSING AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
BC																				C-3									
<p>3821. Estimation of raffinose in raw sugars by paper-chromatographic method. J. Vavrouch. <i>Levy Cukr.</i>, 1951, 67, 67-80; <i>Sug. Ind. Abstr.</i>, 1951, 12, 768. — Analysis of 18 Czech raw beet sugars and 3 average samples for raffinose by the chromatographic method of Alfou and Gross (cf. C., 1950, 437) and de Whalley (cf. <i>Sug. Ind. Abstr.</i>, 1950, 12, Nil. 365 and 400) showed average min., and max. raffinose contents of 0.21, 0.68, and 0.37%, viz., somewhat lower than in English raw beet sugars. P. S. ARUP.</p>																													
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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3

BA

1221. Determination of molasses raffinose in molasses by paper partition chromatography. I. Vavrouk (*Listy Cukr.*, 1961, 87, 211-212; *Sug. Ind. Abstr.*, 1961, 12, 106-108; cf. C., 1961, 498).—The raffinose contents of 16 samples of molasses and one of citric acid fermentation slop were determined in aq. 20% undefecated, recently filtered (paper) dilutions by the method of de Whalley *et al.* (cf. C., 1961, 482). Defecated solutions were more difficult to analyse owing to the presence of salts. Standard molasses to which known amounts of raffinose were added were prepared from 140 g. of sucrose, and 57 g. of K lactate (87.8%) in 36 g. of water, heated for 5 hr. (water bath) with stirring, and made up with water to give a syrup of 77° Brix. Molasses solutions of 72-82° Brix were used for the actual analysis. In the method of analysis the paper was spotted with the sample from a marked capillary tube, and dried at 90° for 45 min. After development (4-30 hr.) the paper was dried at 90° for 1 hr., immediately sprayed with α -naphthol, and dried for 15-20 min. at 90°. Separation was satisfactory, and collaborative analyses of one sample by five persons showed for 20 analyses an accuracy of $\pm 0.2\%$; various molasses contained 0.35-1.48% (average 0.84%) of raffinose; the slop contained 0.08%.

P. S. ARUP

Sugar, Starch & Gum
28

The classification of refined sugars by the polarographic method. I. Vayguch. (Research Inst. Czech. Sugar Ind., Prague). *Shovnik Mandatol. Polarog. Svrda Prava. Ist. Congr. 1931, Pt. I, Proc. 830-41* (in Russian), 842-4 (in

English).--Refined sugars are grouped into 4 quality classes on the basis of combined results obtained with polarographic and conductometric methods. In the former method, the suppression of an O max. is used to indicate the presence of org. nonsugars. The latter method indicates the content of ash (sol. salts).
Otto H. Müller

VAVRUCH, Ivan

Kinetics of limited swelling of ion exchangers. Sbor chem tech no.3,
part 1:227-244 '59.

1. Katedra fyzikalni chemie, Vysoka skola chemicko-technologicka,
Praha.

S/081/62/000/023/021/120
B156/B186

AUTHORS: Vavrch, Ivan, Kohoutová, Hana

TITLE: Conductivity in biologically important heterogeneous systems.
Part II. Steric effects in gelatinous model systems

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 23, 1962, 125, abstract
23B921 (Sb. Vysoké školy chem.-technol. v Praze. Potravin.
technol., v. 5, no. 1, 1961, 15 - 24 [Czech.; summaries in
Russ. and Eng.])

TEXT: The electrical conductivity of a model of a dispersed system with
a dispersion medium (agar-agar gel containing 0.01 - 0.5 N solutions of
KCl) and with a dispersed phase (glass balls and cylinders and silon fibres
oriented parallel or perpendicular to the direction of the electrical
field) have been investigated. The steric effects in systems of this type
depend greatly on the geometrical shape, distribution and orientation of
the dispersed phase particles. They are almost independent of the
electrical conductivity of the gelatinous dispersion medium. For Report I,
see RZhKhim, 1962, 7S22. [Abstracter's note: Complete translation.]

Card 1/1

VAVRUCH, Ivan

CZECHOSLOVAKIA/Physical Chemistry. Surface Phenomena.
Adsorption. Chromatography. Ion Exchange.

B-13

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42757.

Author : Douzkova Jirina, Hejmanek Milos, Vavruch Ivan.

Inst :

Title : Contribution to the Theory of Paper Chromatography
of Inorganic Substances. III. Quantitative Studies
of Frontal and Elution Chromatograms.

Orig Pub: Chem. listy, 1957, 51, No 1, 36-46; Sb. chekhosl.
khim. rabot, 1957, 22, No 4, 1219-1231.

Abstract: Strips of Whatman No 1 paper were immersed, in frontal
analysis, in a solution of NaCl or KCl in C. H. OH,
after the front of the solution had progressed over
a distance 1 the strips were cut into 1 cm long

Card : 1/3

CZECHOSLOVAKIA/Physical Chemistry. Surface Phenomena.
Adsorption. Chromatography. Ion Exchange.

D-13

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42757.

pieces and the amount of salt contained therein was determined. The distance of the inflexion point of the curve of salt distribution over the strip, measured from the starting line, is $h = A \cdot l$, where A is a constant. In elution analysis a strip of paper uniformly impregnated with the solution, over a portion of l^0 in length, is eluted with a solvent. The curves of salt distribution over the strip show maxima, with $l(\max) = A \cdot l + l^0/2$. Constants A , calculated from frontal elution analyses, coincide and are equal to 0.23-0.25 for KCl, and 0.46-0.52 for NaCl. By static measurements of adsorption of salts at the pulped paper, values of A of 0.241 and 0.547, respectively, were obtained. The performed

Card : 2/3

CZECHOSLOVAKIA/Physical Chemistry. Surface Phenomena. Adsorption.
Chromatography. Ion Exchange.

B-13

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42757.

investigations show that chromatography on paper and
in a column are governed by the same laws. The authors
propose to utilize the constant k , in lieu of R_f , for
identification of substances. Communication II see
RZhKhim, 1956, 68609.

Card : 3/3

VAYRUCH, IYAN

the study of paper chromatography of inorganic com-

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"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859110007-9

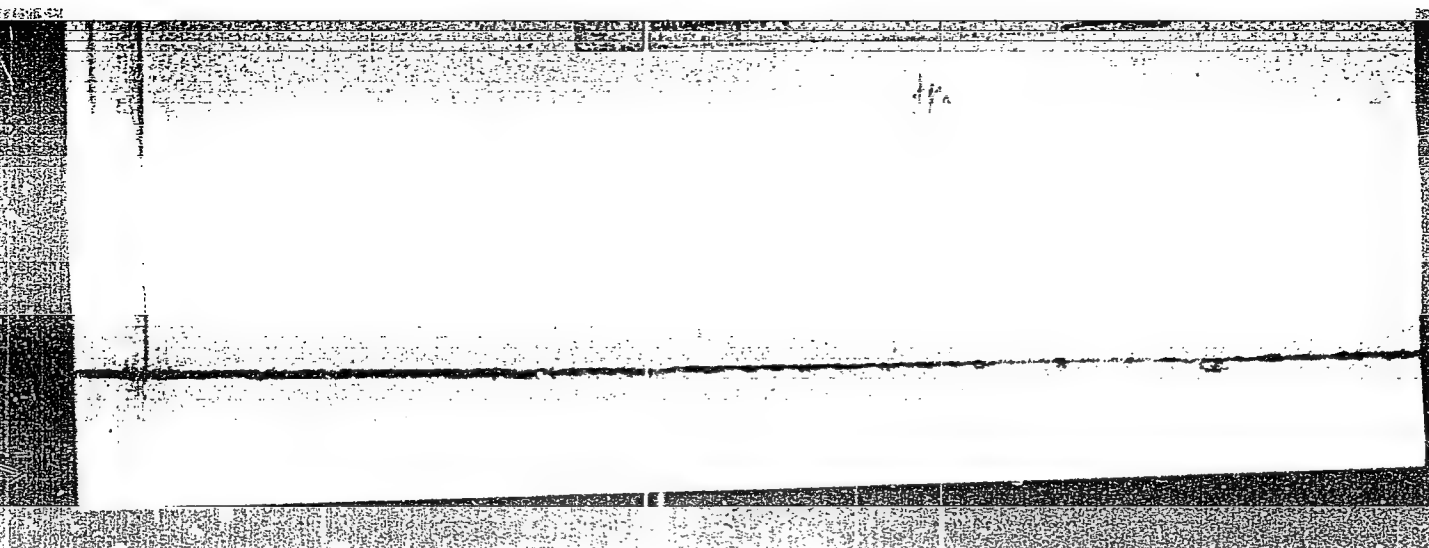
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APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001859110007-9"

VAVRUCH, I.; NEJTMANEK, M.; BOUZKOVA, J.

Contribution to the theory of paperchromatography of inorganic compounds. III.
Quantitative treatment of the frontal and elution chromatographies. p. 36.
(Chemicke Listy, Praha. Vol. 51, no. 1, Jan., 1957.)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

VAVRUCH, J.

5107. Paper chromatography of inorganic compounds
Alkali and alkaline-earth chlorides

in English. In the paper, the effect of inorganic ions on the adsorption of salts by the reagents used for

adsorption of ions on the paper, and the formation of complexes with the solvents. Methanol (97%), ethanol (98%), n-propanol, n-butanol, n-pentanol, acetone, pyridine and benzene were examined. The only salts examined were chlorides. These were detected by spraying the paper with 0.5 N

AgNO₃ solution, which gives a dark greyish-brown color.

The effect of the concentration of the solvent in the solvent front on the R_F value of the

The duration of analysis for the solvent from the origin at the end of the analysis had a significant influence on the

dependence of the R_F value on the concentration of the solvent. The R_F value was studied with the chlorides of K, Na and Li.

partly with respect to the application in the simultaneous determination of Na and K. The band height increased with increasing concn but

decreased with increasing R_F value. It is suggested that the use of a solvent front at R_F = 0.5 is the best for the separation of the

after the elution of the solvent from the paper. The R_F value of the solvent front was found to be 0.5 for KCl, NaCl and LiCl.

diagrammatically. Adsorption from alcoholic solutions is always higher than from aq. soln.

W. J. WRIGHT

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VAVRUCH, L.
1969. Theory of paper chromatography of inorganic compounds. III. Quantitative treatment of frontal and fusion chromatography. *J. Prakt. Chem.*

M. Hestmark and L. Vavruch, Inst. Phys. Chem., High Sch., Oslo, Norway.

Abstract:
of a proposed new method for the determination of the position and distribution of the compound by quant. chromatography. In a series of experiments presented for the confirmation of calculated values, the data obtained experimentally for two chlorides of alkali metals were used.

J. ZILKA

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VAVRUCH, I.

VAVRUCH, I. Kinetics of solvent flow in paper chromatography.
p. 29. Vol. 50, no. 1, Jan. 1956. CHEMICKE LISTY. Praha, Czechoslovakia.

SOURCE: East European Accessions list (EEAL) Vol. 6, No. 4, April 1957

VAVRUCH I.

Use of chromatography in analysis of foodstuffs. p. 207. Vol 9,
no. 3, Mar. 1955. Chemicke Zvesti.

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 3, March 1956

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VAVRUCH, IVAN

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CZECH

The theory of paper chromatography of inorganic compounds. I. Alkali and alkaline earth chlorides. Ivan Vavruch and Milos Hrdmanek (Vysoka skola chemicko-technol., Prague). Chem. Listy 49, 200-11(1949).

Capillary rise of various solvents on chromatographic paper was studied and the following order of decreasing rate of capillary rise was found: $\text{Me}_2\text{CO} > \text{C}_6\text{H}_6 > \text{H}_2\text{O} > \text{C}_4\text{H}_9\text{N}$, $\text{MeOH} > \text{EtOH} > \text{PrOH} > \text{BuOH} > \text{AmOH}$. Further were studied relations between R_f of individual salts, between their nature and the nature of solvents, between the spot size and the concn., and the dependence of R_f and the size of the salt spot on the time of analysis. The distribution of individual salts on the chromatogram and the adsorption of the salts on paper were followed conductometrically. A simple procedure was worked out for semi-quant. micro-detn. of K, Na, and Li in the presence of each other. A mechanism of the sepn. of inorg. salts on paper is proposed.

M. Hudlický

VAVRUCH, I.

CZECH

Chromatography in analytical chemistry in sugar manufacture. I. Vavruch (Sugar Ind. Research Inst., Prague). *Sbornik Ústřední Pracovní Konf. Anal. Chemie* 1, 254-8 (1952) (Pub. 1953).—Paper chromatography made possible the quant. detn. of raffinose in raw sugar and molasses, before and after alcoholic and citric acid fermentation. The same method was used to study the amino acids and their amides present in beet and cane molasses, before and after alc. and citric acid fermentation. Cane molasses had a much smaller amino acid content than beet molasses. The content of different amino acids changed to different extents during fermentation. The content and movement of sugars, amino acids, and their amides in various parts of beets and beet seeds, during vegetative growth, germination at various temps., and different storage conditions was studied; a comparison was made between sugar beets, red beets, and feed beets, and between healthy and diseased beets. In general, the sugar content decreased with increasing amino acid content. The same method was used for the analysis of honey. The protein from fresh beet juice was coagulated with MeOH in the cold, evaporated, and redistilled in H₂O. Only a small amt. of free amino acids was present. Pectin was present along with the protein. The protein was then hydrolyzed with trypsin, and after filtration the amino acids were adsorbed on a column of strongly acid cation exchanger (sulfonate type). The column was eluted with 7N NH₄OH, giving pure amino acids with a small amt. of color which was removed with carbon. The soln. was subjected to one- and two-dimensional paper chromatography, and 18 amino acids were sepd.

II. Newcombe

VAVRUKH, I.

1621* Chromatographic Study of the Sugar Beet and Its Seed. *Khromatograficheskoe izucheniye sakharnoi svekly i ee semian.* II. Nitrogen Free Organic Acids. *Bezazotistyye organicheskiye kisloty.* III. Purines, Pyrimidines, Urea, Betaine, and Their Derivatives. *Puriny, pirimidiny, machedvina, betain, i ikh proizvodnyye.* (Russian.) I. Vavrukh. *Collection of Czechoslovak Chemical Communications.* V. 19, no. 4, Aug. 1954, p. 817-828.
Detected 12 N-free acids and 5-pyrrolidone-2-carboxylic acid. Tables. 19 ref.

VAVRUCH, I.

M The use of paper chromatography in food analyses.
Ivan Vavruch (Vysoká škola chem.-tech., Prague). Chem.
D Zvesti 9, 207-12 (1915); cf. C.A. 49, 525g.—A lecture. The
application of paper chromatography in analyses of sugars,
amino acids, and free org. acids and their mixts. is dis-
cussed. Jan Michs

VAVRUCH, J.

Chromatographic studies of beet seeds and sugar beet. III.
Vavrukh (Chem. Listy 1954, 48, 448-449) --In beet seeds, with-
out acid hydrolysis of the extract, uracine, allantoin, and probably
guanine and xanthine were found. After acid hydrolysis, adenine
and guanine and uracine were present. The juice of the ripe
beet contained adenine, guanine, allantoin, uracine, hypoxanthine,
xanthine, hetero xanthine, etc. As the seeds become older, the
amounts of uracine, allantoin, and guanine and xanthine of
uracine, hypoxanthine, and xanthine increase, and the amounts of
allantoin and guanine probably increase. The determination of
uracine, allantoin, and guanine is described.
Sov. Ind. Anstr. (E. M. J.)

Chromatographic studies of beet seeds and sugar beet. II. Non-nitrogenous organic acids. I. Vavrukh (*Chem. Listy*, 1954, 48, 442-445). — Tests on sugar beet during the vegetative period indicated the presence of 5-pyrroline-2-carboxylic acid, and of β -butyric, oxalic, malonic, succinic, glutaric, adipic, citric, tricarballic, malic, tartaric, lactic and fatty acids containing more than five C atoms. Ionic and olefin acids are probably present. In the early stages the non-nitrogenous acids are contained in the body and leaves of the beet in equal amounts but with age there is movement from the beet to the leaves in which the content is increased. The amino acids of non-nitrogenous acids were found in beet seed and in dehusked seeds. Tricarballic and oxalic acids were identified. SUG IND ANSTR. (E. M. J.).

VAVRUCH, I.

"Chromatographic Study of the Sugar Beet and Its Seeds. II. Nitrogen-free Organic Acids. .III. Purines, Pyrimidines, Urea, Betaines, and their Derivatives", P. 442, (CHEMICKÉ LISTY, Vol. 48, No. 3, 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), IC, Vol. 4, No. 1, Jan. 1955, Uncl.

VAMPUCH, I.

Chromatographic studies on sugar beet. II. Nitrogen-free organic acids. (van Vampuch, V. *Průmysl cukr. Praha, Czech. J. Chem. Ind. 1954*; *cf. C.A. 48, 11723d*).—Paper chromatography was used for the quant. and semiquant. study of the content and movement of N-free org. acids in the bulb and leaves of sugar beets. The seeds of the sugar beet contain only small amts. of N-free acids. In the bulb and leaves, the presence of butyric, oxalic, malonic, succinic, glutaric, adipic, citric, tricarballic, malic, tartaric, lactic, and of the monocarboxylic acids with more than 6 C atoms was noticed, also 5-pyrroldione-2-carboxylic acid. The presence of formic and acetic acids is disputable. III. Purines, pyrimidines, urea, betaines, and their derivatives. *Ibid.* 48-9.—Paper chromatography, mostly in BuOH satd. with H₂O, was used for the detection of vernine (R_f 0.13), xanthine (0.17), xanthine (0.21), hypoxanthine (0.31), adenine (0.48), allantoin (0.11), urea (0.23), and guanidine (0.35). Urea and its derivs. were chromatographed in aq. solns.; betaine and its derivs. in ternary mixts. The presence of 7-methylxanthine in the bulb is suspected. The changes in the contents of the above compds. during vegetation periods were followed. M. Hudlický

VAVRUCH, IVAN

Chromatographic study of sugar-beet by-products. Ivan Vavruch. *Litsy Chikrogr.* 70, 15-16 (1954). — Various ~~by-products~~ ^{by-products}, guanine, betaine, etc., were detd. in said by-products from the 2nd stage, i.e. molasses and in beet slices, which underwent fermentation. The results are not very reliable owing to inherent difficulties. Joseph Lederer

VAVRUCH IVAN

Streaming of electrolytes on the dropping-mercury electrode. Ivan Vavruch. Chem. Listy 39, 85-71 (1935). Abstract: Streaming which occurs during the formation of polarographic max. in the space around the dropping-Hg electrode was studied. The influence of the mode of streaming on the shape of the curve of the max. was followed. A new classification of polarographic max. was based on these expts.

M. Hurdley

VAVRUCH, IVAN

Fysikalni chemie. [Vyd. 1.] Praha, Statni pedagogicke nakl., 1953. Vol. 1. (Ucebni texty vysokych skol) [Physical chemistry. Bibl., diags.]

SO: Monthly List of East European Accessions, Vol.3, No.2, Library of Cong., Feb. 1954, Uncl.

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A chromatographic study of amino acids in sugar-beet
 protein. Ivan Vavrukh (Sugar Research Inst., Prague,
 Czech.). *Super* 47, No. 3, 35-6 (1952).—The amino acids
 were prepd. from fresh press juice by mixing with an equal
 vol. of 95% MeOH at 4°, centrifuging, hydrolysis with
 trypsin, adsorption on a sulfonated, strongly acid cation-
 exchange resin, elution with 7 *N* NH₄OH, treatment with
 activated C, and evapn. on a water bath. Portions of 8
 microl. of soln. in a small amt. of H₂O were chromatographed
 in 1 and 2 dimensions with various solvents and solvent
 mixts., and the chromatograms spotted with ninhydrin and
 other reagents. The amino acids were identified by con-
 trols with known amino acids and mixts. of them. *Aspartic*
 and *glutamic acid*, *asparagine*, and *glutamine* were present
 in relatively large quantities; *alanine*, *valine*, *leucine*, *iso-*
leucine, and *γ-aminobutyric acid* totaled 30-50% relative to
 the aspartic acid; *threonine*, *glycine*, *serine*, *proline*, and
histidine 15-25%; and *phenylalanine* and *tyrosine* 5-15%.
Arginine was present in fairly large amts., *cysteine* in small
 amts. *Lysine*, and perhaps *hydroxyproline*, were obtained
 in traces. The presence of *ornithine* is uncertain.

F. W. Zerbe

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The determination of the diffusion coefficient by the polarographic method. Ivan Yavrukh. *Chemie (Prague)* 4, 226-7(1949).—V. derives equations for computing the diffusion coeff. from the shift in the polarographic waves in two different concns. of the same substance and from two points on the same polarographic curve. P. Maresh

CA

Streaming of electrolytes on the dropping-mercury electrode. Ivan Vavrich. *Chem. Listy* 30, 65-71 (1945). --Adsorption streaming which occurs during the formation of polarographic max. in the space around the dropping-Hg electrode was studied. The influence of the mode of streaming on the shape of the curve of the max was followed. A new classification of polarographic max was based on these expts. M. Hudlicky

CA

Determination of surface-active substances in refined sugar. Classification by the polarographic method. Ivan Vavruch. (Czechoslovak Sugar Ind., Prague). *Anal. Chem.* 22, 930-2(1950).—A summary of the method (*C.A.* 44, 2777c) for the detn. of surface-active materials by their effects on the height of the O max. in 0.002 M K_2SO_4 . Louis Meites